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Arrhythmias

DO DIFFERENCES EXIST BETWEEN ORAL ANTICOAGULANTS IN PATIENTS WITH NONVALVULAR ATRIAL FIBRILLATION? AN ADJUSTED INDIRECT COMPARISON META-ANALYSIS

ACC Moderated Poster Contributions
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Authors: *William L. Baker, Olivia Phung, University of Connecticut Schools of Pharmacy & Medicine, Storrs & Farmington, CT, USA, Western University of Health Sciences, Pomona, CA, USA*

Background: Oral anticoagulants such as apixaban, dabigatran, and rivaroxaban have been studied as alternatives to warfarin in the prevention of events in patients with nonvalvular atrial fibrillation. However, direct comparative studies between these agents have not been performed. The use of indirect comparisons among the agents is therefore necessary to inform clinical decision making.

Methods: We searched PubMed and Cochrane Central from their inception to October 2011 for randomized controlled trials in patients with atrial fibrillation that evaluated either apixaban, dabigatran, or rivaroxaban compared to warfarin or each other. For the dabigatran studies, we only included data from the arms using the FDA-approved dose. Outcomes included the primary composite of stroke or systemic embolism, any stroke, and major bleeding among others. Outcomes were initially pooled using standard random-effects methods producing odds ratios (OR) and 95% confidence intervals (CI). Adjusted indirect comparisons between agents using these pooled estimates were then performed using well established methods.

Results: A total of 44,733 patients from 4 studies were analyzed. Apixaban significantly lowered the odds of major bleeding (OR 0.74, 95% CI 0.60-0.91) and gastrointestinal bleeding (OR 0.58, 95% CI 0.41-0.82) versus dabigatran and major bleeding versus rivaroxaban (OR 0.68, 95% CI 0.55-0.83), but increased systemic emboli versus rivaroxaban (OR 3.86, 95% CI 1.17-12.75). Dabigatran significantly lowered the odds of the composite outcome (OR 0.75, 95% CI 0.57-1.00), ischemic stroke (OR 0.67, 95% CI 0.48-0.93), and hemorrhagic stroke (OR 0.45, 95% CI 0.45-0.99) versus rivaroxaban. No significant differences in all strokes or mortality were seen between agents.

Conclusion: Significant differences in pertinent efficacy and safety parameters may exist between oral anticoagulant agents in patients with nonvalvular atrial fibrillation. Head-to-head clinical trials are required to confirm the findings of this adjusted indirect comparison analysis.